



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,545	08/22/2003	Jung-Tao Liu	29250-001070/US	9178

7590 09/29/2008
HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 8910
Reston, VA 20195

EXAMINER

PATEL, CHANDRAHAS B

ART UNIT	PAPER NUMBER
----------	--------------

2616

MAIL DATE	DELIVERY MODE
-----------	---------------

09/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/645,545	Applicant(s) LIU, JUNG-TAO	
	Examiner Chandrabhas Patel	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-17 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-17, 19-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/23/2008 have been fully considered but they are not persuasive. Applicant argues that Sawada does not teach the controls signal data in each field include ACK/NACK of a packet and the transmit rate at which the user is to transmit in the uplink. Examiner agrees with the applicant that control signal data in each field does not include ACK/NACK and transmit rate that device is to use for transmission. However, Sawada is cited to teach the limitation that the control signal data includes ACK/NACK and transmit rate of the device. Parantainer teaches each field includes control signal data for the users or devices.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-3, 5-7, 14-17, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parantainer et al. (USPN 7,092,373, Herein as '373) in view of Sawada et al. (USPN 7,088,683, Herein as '683).

Regarding claim 1, '373 teaches a method of transmitting control signals for uplink transmission of packet data [**Abstract**], comprising: transmitting control signal data over a downlink control channel shared by a plurality of users [**Col. 8, lines 59-66, Fig. 4, 401, Control channel going from Base Station to Mobile Station is downlink control channel**], the downlink control channel including timeslots [**Col. 9, lines 11-14**], each timeslot including fields identifying one of the plurality of users [**Col. 10, lines 14-38, TFI is a field that identifies a specific user**], each field including control signal data for the identified user for controlling

uplink transmission of packet data by the identified user [**Col. 10, lines 46-50, identifies which uplink block can mobile station use for transmitting control messages**].

However, '373 does not teach the control signal data includes acknowledgment/negative acknowledgment of a packet transmitted by a user and an indicator related to a transmit rate at which the user is to transmit in the uplink.

'683 teaches the control signal data includes acknowledgment/negative acknowledgment of a packet transmitted by a user [**Col. 4, lines 25-31**] and an indicator related to a transmit rate at which the user is to transmit in the uplink [**Col. 5, lines 50-57**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include acknowledgement of a packet transmitted by a user and an indicator related to a transmit rate at which the user is to transmit in the uplink so that mobile device can correctly receive data even if it is moving at high speed [**Col. 5, lines 57-59**].

Regarding claims 2 and 15, '373 teaches assigning each user a particular field in the downlink control channel, in advance of transmitting the downlink control channel [**Col. 9, lines 17-21**].

Regarding claims 3 and 16, '373 teaches assigning each user a particular field with a given channelization code during a call setup procedure with the user [**Col. 9, lines 57-62, TBF is the unique code that is used to identify a particular slot over which communication takes place**].

Regarding claims 5 and 20, '683 further teaches the control signal data in each field includes a first indicator specifying one or an acknowledgment or negative acknowledgment of a packet transmitted by a user [**Col. 4, lines 25-31**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to send an acknowledgement of a packet transmitted by a user so that mobile device knows that the base station has accurately received the data [**Col. 4, lines 25-31**].

Regarding claims 6 and 21, '683 further teaches the control signal data has a second indicator related to a maximum transmit rate at which the user is to transmit in the uplink [**Col. 3, lines 61-64**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a maximum transmit rate at which the user is to the transmit in the uplink so that maximum capacity can be used when all carriers are available [**Col. 3, lines 64-67**].

Regarding claims 7 and 22, '683 further teaches a user adjusts transmit rate or maintains transmit rate in the uplink based on values of the first indicator and the second indicator [**Col. 4, lines 8-11, where user is going to adjust the transmission rate if the number of sub-carriers change**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust or maintain transmit rate in the uplink based on values of the first and second indicator so that if number of carries are changed the transmit rate can be adjusted [**Col. 3, lines 64-67**].

Regarding claim 14, '373 teaches a method for uplink transmission of packet data [**Abstract**], comprising: decoding a field received over a downlink control channel that is shared by a plurality of users [**Col. 9, lines 5-10, Fig. 4, 401, Control channel going from Base Station to Mobile Station is downlink control channel**], the shared downlink control channel including time slots [**Col. 9, lines 11-14**], each time slot having a plurality of fields [**Col. 10,**

lines 14-38, TFI is a field that identifies a specific user], each field including control signal data for an identified one of the plurality of users for controlling uplink transmissions [**Col. 10, lines 46-50, identifies which uplink block can mobile station use for transmitting control messages**]; and transmitting packet data, from the identified user, in the uplink in accordance with the decoded control signal data [**Col. 10, lines 46-50**].

However, ‘373 does not teach the control signal data includes acknowledgment/negative acknowledgment of a packet transmitted by a user and an indicator related to a transmit rate at which the user is to transmit in the uplink.

‘683 teaches the control signal data includes acknowledgment/negative acknowledgment of a packet transmitted by a user [**Col. 4, lines 25-31**] and an indicator related to a transmit rate at which the user is to transmit in the uplink [**Col. 5, lines 50-57**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include acknowledgement of a packet transmitted by a user and an indicator related to a transmit rate at which the user is to transmit in the uplink so that mobile device can correctly receive data even if it is moving at high speed [**Col. 5, lines 57-59**].

Regarding claim 17, ‘373 teaches each user is assigned a particular field in the shared downlink control channel by a base station serving the user [**Fig. 4, 401**], in advance of receiving the shared downlink control channel [**Col. 9, lines 17-21**], the assigned field adapted to be modified by the serving base station [**Col. 9, lines 57-62**].

4. Claims 8, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parantainer et al. (USPN 7,092,373, Herein as '373) in view of Sawada et al. (USPN 7,088,683, Herein as '683) and Tiedemann, Jr. et al. (USPN 7,054,293, Herein as '293).

Regarding claims 8 and 19, the references teach a method as discussed in rejection of claim 1 and claim 14.

However, the references do not teach the number of users supported by the control channel is based on one or more of a signal-to-noise ratio, coding rate for the channel, and the bits size of each field.

'293 teaches the number of users supported by the control channel [**Col. 2, lines 58-61**] is based on one or more of a signal-to-noise ratio, coding rate for the channel [**Col. 2, lines 66-67 – Col. 3, lines 1-4**], and the bits size of each field [**Col. 2, lines 58-61**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the number of users based on above discusses parameters since other parameters used to determine capacity are fixed by the system design [**Col. 2, lines 62-63**].

5. Claims 9, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parantainer et al. (USPN 7,092,373, Herein as '373) in view of Sawada et al. (USPN 7,088,683, Herein as '683) as applied to claim 6 and 21 above, and further in view of Gardner et al. (USPN 7,146,174, Herein as '174).

Regarding claims 9 and 23, the references teach a method as discussed in rejection of claim 6 and claim 21.

However, the references do not teach the number of users supported by the control channel is based on a bit size of the second indicator in each field.

‘174 teaches the number of users supported by the control channel is based on a bit size of the second indicator in each field [**Fig. 3, Col. 5, lines 29-32, second field indicates the transmission rate as discusses in claim 6**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the number of users based on transmission rate of the system so that acceptable quality can be given to all users communication [**Col. 5, lines 26-28**].

6. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parantainer et al. (USPN 7,092,373, Herein as ‘373) in view of Sawada et al. (USPN 7,088,683, Herein as ‘683) as applied to claim 6 above, and further in view of Tiedemann Jr. et al. (USPN 7,120,134, Herein as ‘134).

Regarding claim 10, the references teach a method as discussed in rejection of claim 6.

However, the references do not teach the first and second field indicators are 1-bit values.

‘134 teaches the first and second field indicators are 1-bit values [**Col. 6, lines 53-56, Col. 9, lines 2-9**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have 1-bit values for first and second field so that it’s clear what control channel meant by ACK or NAK [**Col. 9, lines 10-11**].

Regarding claim 11, the references teach a method as discussed in rejection of claim 6.

However, the references do not teach the first and second field indicators are N-bit values, N is an integer greater than 1.

‘134 teaches the first and second field indicators are N-bit values, N is an integer greater than 1 [**Col. 9, lines 2-9**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have N-bit values for the first and second field so that n-bit message can be block coded to increase reliability [**Col. 9, lines 10-11**].

Regarding claim 12, the references teach a method as discussed in rejection of claim 6.

However, the references do not teach one of the first indicator and second indicator is an M-bit value and the other of the first indicator and second indicator is an N-bit value, N and M being different positive integers.

‘134 teaches one of the first indicator and second indicator is an M-bit value and the other of the first indicator and second indicator is an N-bit value, N and M being different positive integers [**Col. 9, lines 2-9, number of bits depend on the number of channels in the service configuration so the bits will be different for each field**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have different values for each field so that the field can be coded depending on the number of reverse link channels [**Col. 9, lines 2-9**].

7. Claims 13, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parantainer et al. (USPN 7,092,373, Herein as ‘373) in view of Sawada et al. (USPN 7,088,683, Herein as ‘683) and Proctor, Jr. (USPN 7,218,623, Herein as ‘623).

Regarding claims 13 and 24, the references teach a method as discussed in rejection of claim 1 and claim 14.

However, the references do not teach each field is individually power controlled based on an uplink power control command by the user specified by the field.

‘623 teaches each field is individually power controlled based on an uplink power control command by the user specified by the field [**Fig. 3, 312**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to individually power control each field so that each device can be individually controlled based on the device’s environmental conditions [**Col. 12, lines 35-47**].

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is (571)270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit
2616

/Chandrahas Patel/
Examiner, Art Unit 2616